



Overcoming the Barriers of Civil/Military Industrial Integration and of Buying Commercial Goods and Services

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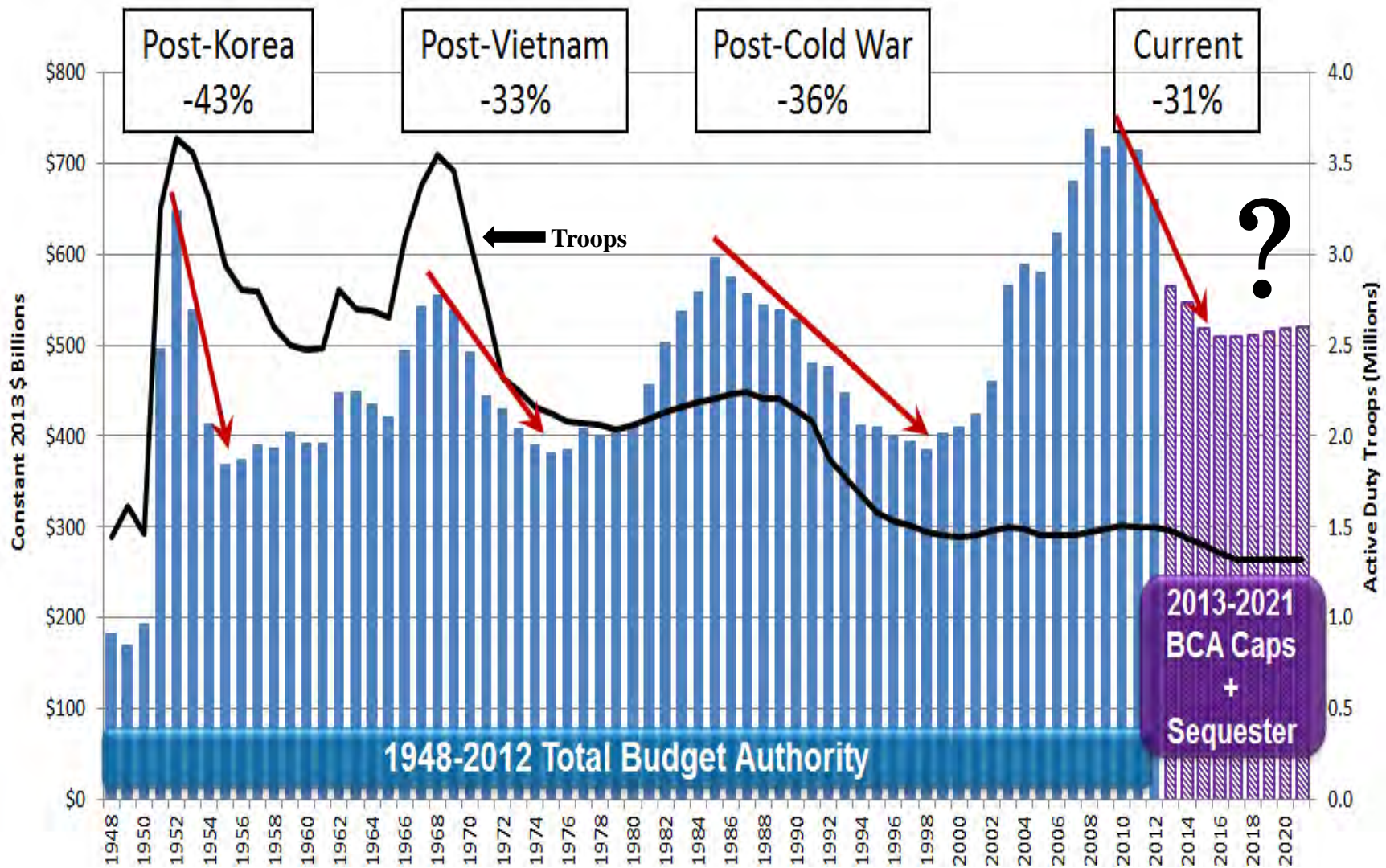
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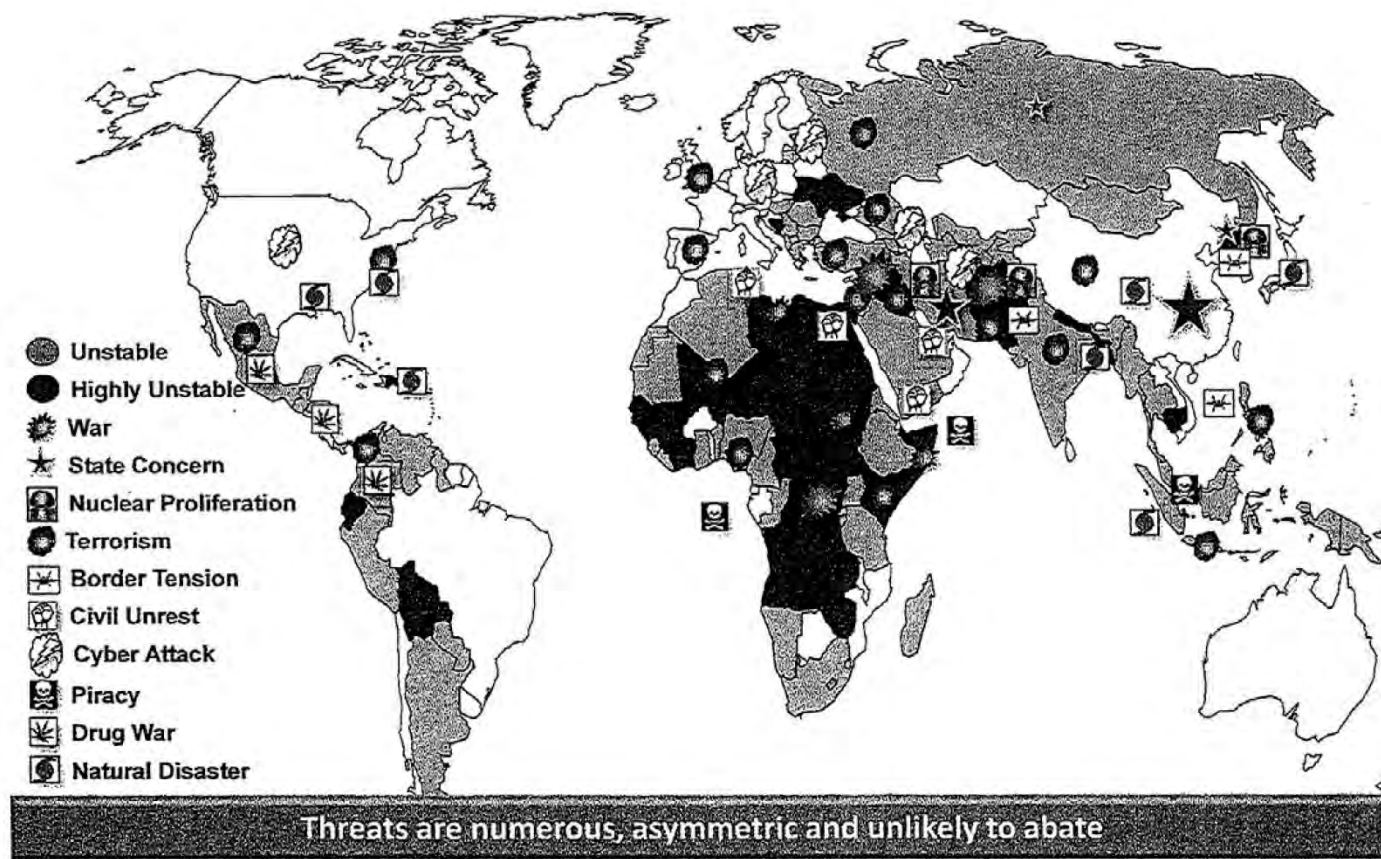
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Shrinking and Uncertain Defense Budgets and Declining Force Structures



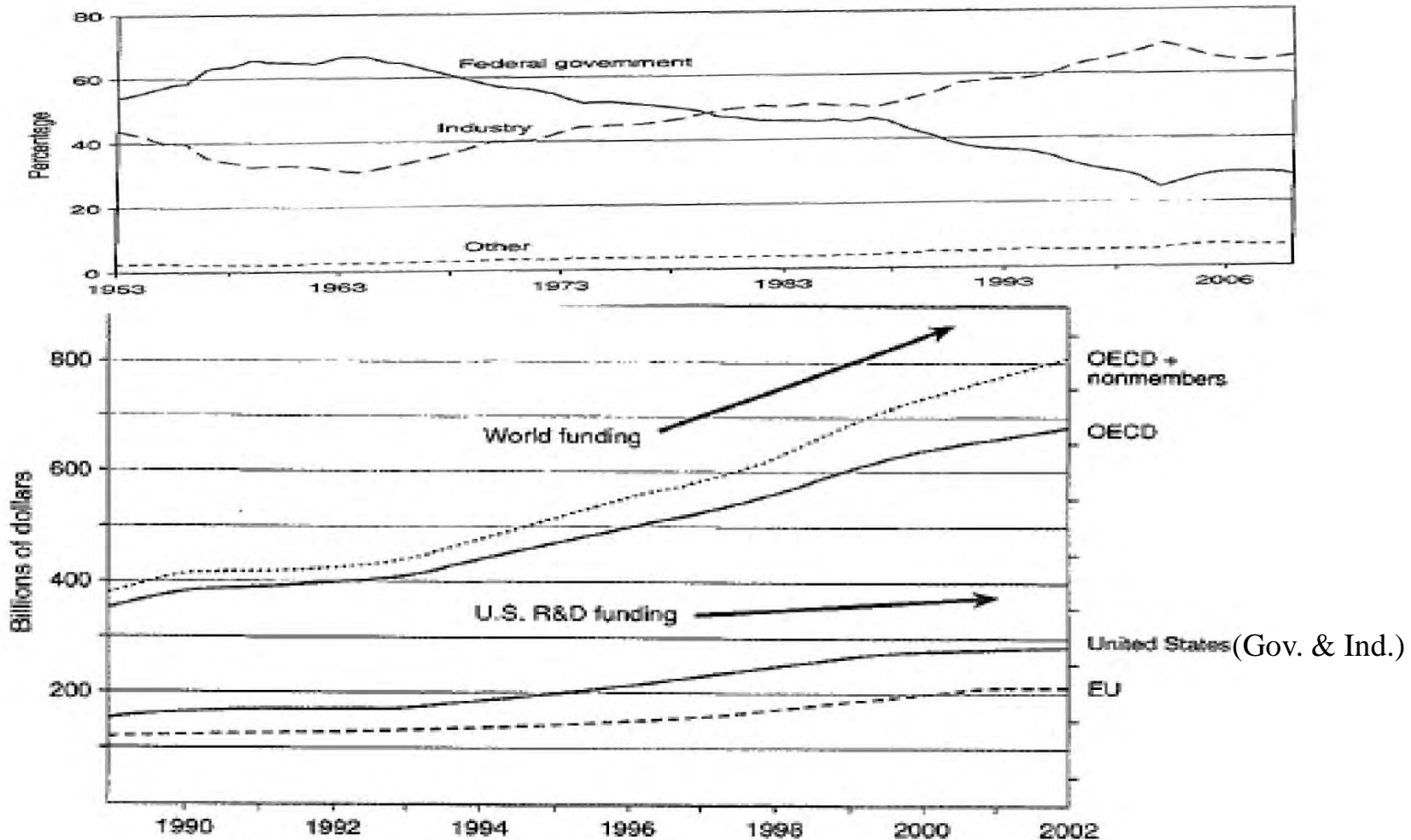
Source: Center for Strategic and International Studies (CSIS).

The State of Global Security*



* Source: Exelis Analysis

Research Funding Trends*(Critical for Economic Competitiveness and Security “Technological Leadership”)



*Sources: Top Fig.: David Mowery “Military R&D and Innovation” (University of California Press, 2007); Lower Fig.: National Science Foundation, S&E Indicators 2006; OECD, Main S&T Indicators database, Nov. 2004

The Challenge:

- Declining and uncertain Defense Budgets (especially for R & D)
- Growing Global and non-traditional National Security Concerns
- Maintaining Technological Leadership (in a rapidly-changing world)
- Achieving Rapid Response to change
- Recognize the increased acquisition of services (when rules are based on buying goods)

Areas for Solutions:

1. What we buy (the “requirements” and “budget” processes)
2. How we buy (the “acquisition” process)
3. From whom we buy (the “defense industrial base”)
4. Who does the buying (the acquisition workforce)
5. How we support (the Logistics process)

It is increasingly recognized (by Congress, the DoD and the Industry) that changes are required - - and the 5 areas are interrelated, and that all impact effectiveness and affordability. So, Government, Industry, and Universities must work (in partnership) in researching and innovating in these areas.



Summary of Current Needs Regarding Industrial Base

“The last two decades have seen a consolidation of the Defense Industry around 20th Century Needs – The next step is DoD leadership in transforming to a 21st Century National Security Industrial Structure.”

(DSB Report on 21st Century Defense Industry, 2008)

Transformation to focus on:

- Affordability (procurement and life cycle costs)
- Responsiveness (government and industry)
- Government Gain benefits of commercial and global
- Maintaining “Technological Superiority”
- Assuring the incentives from competition (at all levels, and for all non-inherently-governmental work)



Benefits of Civil/Military Integration

- Economies-of-scale:
 - higher volume from “dual use” - - therefore lower cost goods and services for both commercial and military.
- Technology (product and process) transfer (“spin on” and “spin off”)
 - Civil competitive market emphasis on cost and reliability (fits increasing defense required emphasis on “affordability”) (DoD should make long-term, high-risk investments in innovative technology (while commercial firms need short-term, low risk investments)
 - Civil emphasis on “rapid availability” for market leadership (fits defense emphasis on a strategy of “technological leadership”)
 - Civil can take advantage of large R & D investments in defense, and defense can take advantage of the even-larger civil R & D investments
- Accelerated Commercialization:
 - Since U.S. security strategy is “technological superiority”, and its large, annual procurement budget provides a “first buyer” for “proof of concept demonstration”, this can then lead to low-risk, early commercialization.
- Greater Competition for DoD:
 - Encouraging civilian-oriented firms to enter the DoD market expands the market’s competitive environment (especially, at the lower tiers)



Example of Potential Benefits of “Buying Commercial”: at the Parts Level:

For Same Environment and Performance

	COMMERCIAL	MIL SPEC
Semiconductor PART COST		
Bi-polar digital logic	\$1.67	\$15.78
Bi-polar linear	\$0.42	\$11.40
RELIABILITY FAILURE INDEX (ppm)	0.06	1.9 – 4.6
LEAD TIME NEW PART	1-12 months	17-51 months

After seeing this (and other comparable data) on the “Packard Commission”, Defense Secretary Perry issued a Directive for DoD to “use Commercial Specs and Standards” (which has not been followed)

*Sources: “A Quest for Excellence” - “The President ‘s Blue Ribbon Commission Defense Acquisition;” (from Packard Commission), June 1986

A Success Story

Joint Direct Attack Munitions (JDAM) Program

- ➔ The JDAM System is a tail kit for converting gravity guided munitions to GPS or computer-guided munitions (i.e. converting “dumb” bombs to “smart” bombs)
- ➔ A key “pilot program” in DoD’s push for using commercial acquisition strategies – granted expedited waiver status (25 in total)
- ➔ Program cost figures:
 - Historical system price estimate: \$68,000 (i.e. “ICA”)
 - **Price requirement**: \$40,000
 - **Initial system price**: \$18,000**

***after 190,000 units delivered (per SAR) average price <\$20,000 (incl. with changes and inflation)*

➔ **Requirements** (per CSAF)

1. “Hit the target”
2. “Work”
3. “Cost under \$40,000”



➔ **Strategy**

- Continuous competition
- Max. commercial*
- Warranties
- “Best value” selection
- Well-Educated and Experienced PM

** Achieved 85% of the cost, commercial*



Examples of U. S. Legislative, regulatory, policy and practices “barriers” to Civil/Military Industrial Integration and to buying Commercial

- “Specialized” (government unique) cost accounting requirements
- Export Controls (including on sub-contracts)
- Loss of Intellectual Property
- Extensive Oversight and auditing
- 50% Depot law (on maintenance and “core” work)
- Legislative Elimination of Public/Private competitions
- Extensive reports required - - including on sub-contractors (e.g. on finance, quality and manpower)
- Insufficient education of buyers and Program Managers (e.g. on “buying commercial” (FAR part12, FASA, OTA, etc) and on industry incentives).
- Growing Focus on Low Price vs. “Best Value”
- “Buy American” legislation

(continued)



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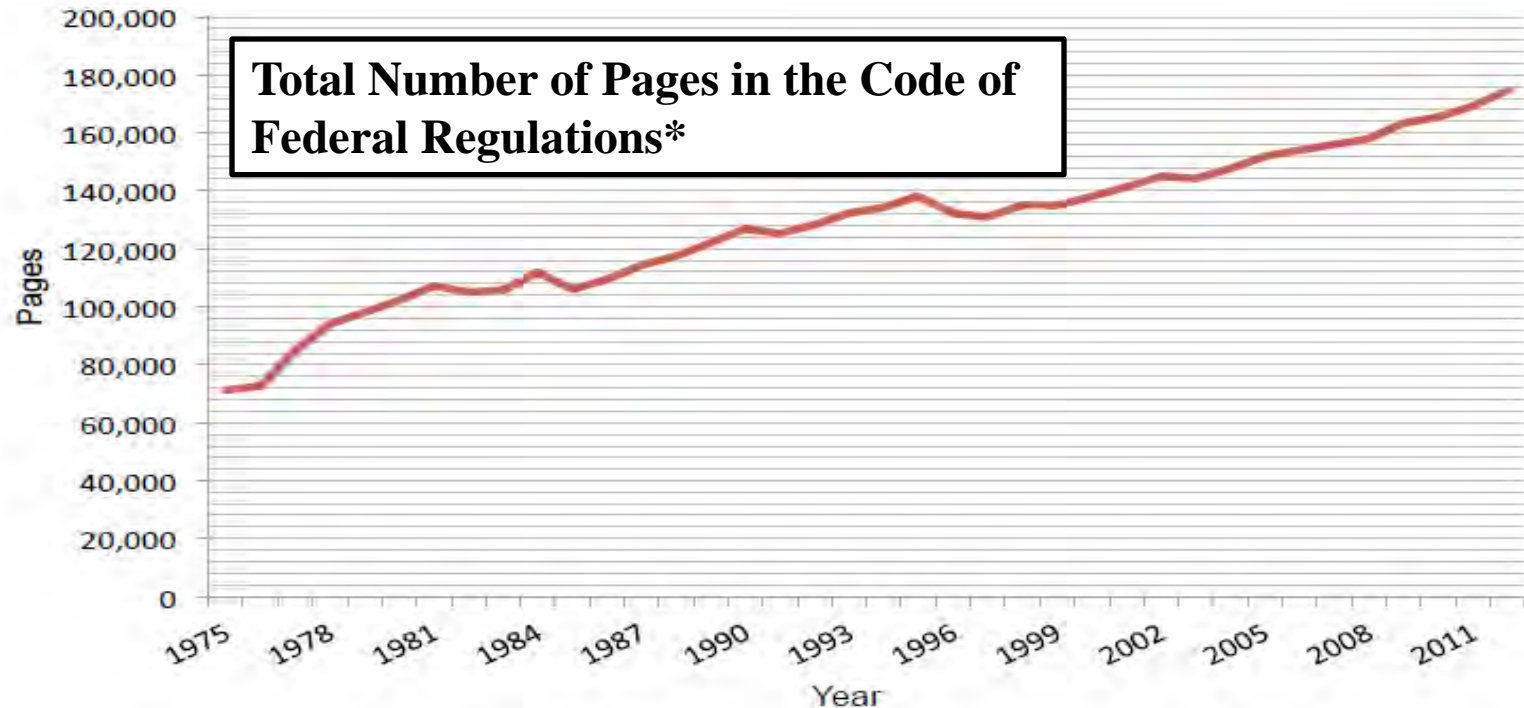
Examples of U.S. Legislative, regulatory, Policy and practices “barriers” to Civil/Military Industrial Integration and to buying Commercial (continued)

- “Compliance culture” (fear of risk)
- Socio-Economic Requirements
- Security Requirements
- Budget and Market annual uncertainties
- Unique military specifications
- “Conflict minerals” prohibitions
- Contract Finance/Payments laws
- Mandated low profit margins on sales to government
- Push for more “insourcing”

These “barriers” must be lowered and/or removed!

Note: BBP 3.0 says: “remove barriers to buying commercial”

Continuing Problems in DoD's Acquisitions Have Caused Increased Regulation and Oversight - - Further Increasing Costs; and Driving Away Commercial Firms



OMB and SBA estimated Regulatory Compliance costs of \$1.752 trillion in 2008 (up from \$1.1 trillion in 2005 and \$843 billion in 2001)

Note 1: That the sum of corp. tax and individual taxes in 2011 was \$1.402 trillion (far less than the estimated regulatory compliance costs).

Note 2: The TASC/Coopers and Lybrand study of the 18% "regulatory cost impact on DoD purchases" was done in 1994. A 2014 Air Force report said the regulatory cost increase is now 25%.

*Source: McLaughlin, Patrick A., On The Human Costs Of The Us Regulatory System: Should Congress Pressure Agencies to Make Rules Faster?, August 1, 2013



Cost Comparison Studies of “Insourcing”

➔ CBO: “Logistics Support for Deployed Military Forces,” October, 2005

“Over a 20 year period, using army military units would cost roughly 90% more than using contractors”

And “Contractors can be hired and terminated as needed”

➔ GAO: “Warfighter Support: A Cost Comparison of Using State Department Employees vs. Contractors for Security Services in Iraq,” March 4, 2010

“Using State Department employees to provide state security for the Embassy in Bagdad would cost approximately \$858 million for 1 year; vs. \$78M charged by contractor” (over 90% more for State Department employees).

The Greatest Incentives for Innovations to achieve a Higher Performance at lower costs come from continuous competition: A success story is The Great Engine War (Pitted P&W against G.E to supply different engines for F-15s and F-16s)

- Improved Reliability
 - Shop visit rate per 1000 engine flight hours is half the pre-competition engines
 - Scheduled depot return increased from 900 cycle to 4000 cycles
- Improved contractor responsiveness, as well as investments to improve efficiency, upgrade manufacturing capability, and other capital investments and engineering investments to reduce costs, improve quality, and improve performance
- Lower-cost warranties--significant savings gained from the original, sole-source P&W warranty cost
- Dual lower-tier suppliers utilized and hence operational flexibility and an enlarged industrial base
- Considerable protection from production disruption
- Estimated \$2 – 3 billion in net savings (then-year dollars) over the 20 year lifecycle of the aircraft

Both New Engines Proved to be More Capable, Durable, and Supportable, and at Lower Costs Than the Current Engine

But, on the F-35 (the largest DoD program ever) it was decided to not competitively dual-source the engines! And when the selected engine ran into trouble (there was no choice)

This is a Critical Period

- Similar to the period following the launch of Sputnik or the fall of the Berlin Wall
- Today the security world is changing dramatically—especially since 9/11/01 (geopolitically, technologically, threats, missions, war fighting, commercially, etc.) – and a holistic perspective is required (including STATE, Homeland Security, and National Intelligence, as well as coalition operations)
- Moreover, a prior decade of solid budget growth – which has clearly changed – has deferred difficult choices (between more 20th Century equipment vs. 21st Century equipment).
- However, the controlling acquisition policies, practices, laws, etc. and the Services’ budgets and “requirements” priorities have not been transformed sufficiently to match the needs of this new world (in fact, there is still an emphasis on “resetting” vs. “modernization”; and of “preserving” the industrial base, vs. “transforming” it).

**Leadership (from Executive and Legislative branches) is Required
to Achieve the Needed Changes!**

Expect Significant Resistance to Change*

- From Congress (e.g. base closures; public/private competition; foreign sourcing)
- From Unions (e.g. outsourcing; competitive sourcing)
- From the Military (e.g. if the change is counter-cultural) [Global Hawk story]
- From incumbent businesses (e.g. want more orders for current products)

This Resistance Must Be Overcome!

➡ It will take proactive Leadership/Management at multiple levels and perspectives (e.g. OSD, P.M.s, Contracting, Industry, etc. - - and Congress)

**as Machiavelli warned – in “The Prince”, 1513*

"It Must Be Remembered That There Is Nothing More Difficult To Plan, More Doubtful Of Success, Nor More Dangerous To Manage, Than The Creation Of A New System. For The Initiator Has The Enmity Of All Who Would Profit By The Preservation Of The Old Institutions And Merely Lukewarm Defenders In Those Who Would Gain By The New Ones."

Niccolo Machiavelli "The Prince," (1513)

Summary

For Successfully Achieving Change, two things are required:

1. Widespread recognition of the need for change
2. Leadership - - with a vision; a strategy; and a set of actions to achieve the change

Today, in the U.S. there is widespread acceptance of the need for changes both the House and Senate Armed Services Committees have taken it on; and the laws and regulations now encourage it:

- The Federal Acquisition Streamlining Act (FASA) states a “Preference for Commercial”
- The Federal Acquisition Regulations “Part 12” is written to allow it
- The DoD’s “Better Buying Power 3.0” Policy (released Sept. 19, 2014) explicitly states: “Remove barriers to commercial technology utilization”
- Strong support for Small Business Innovative Research (SBIR) and “Commercialization” of university research

“Case studies” are required and some exist (e.g. JADM)

It can, and must be done!